

Translation

PATENT COOPERATION TREATY

PCT/DE2003/003163



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 4211/I/098	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003163	International filing date (day/month/year) 23 September 2003 (23.09.2003)	Priority date (day/month/year) 05 December 2002 (05.12.2002)
International Patent Classification (IPC) or national classification and IPC G02B 21/00		
Applicant LEICA MICROSYSTEMS HEIDELBERG GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>3</u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 27 May 2004 (27.05.2004)	Date of completion of this report 25 January 2005 (25.01.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/003163

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:

pages 1-14, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☒ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement under Article 19

pages _____, filed with the demand

pages 1-13, filed with the letter of 14 November 2004 (14.11.2004)

☒ the drawings:

pages 1/6-6/6, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/ 03/03163

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

1. This report makes reference to the following documents:

D1: EP1178345

D2: XP000255795

D3: US5192980

D4: XP000981049

2. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step (PCT Article 33(3)).

- 2.1 Document D1 discloses (see the figure) a scanning microscope for reproducing an object (14) by means of a light source (7), an illumination beam path with a spectrally selective element AOTF (8), and a detection beam path with a spectrally selective detection device (2, 5).

The subject matter of claim 1 differs from D1 in that the illumination and detection beam paths are designed as in a slit scanner, slit diaphragms being provided in the illumination beam path and in the

detection beam path, the length or width of at least one of the diaphragm slits being variable.

The present invention can therefore be considered to address the problem of increasing the possible data recording speed.

The advantages of confocal microscopes with slit scanners over pin hole arrangements are generally known. D2, for example, discloses a confocal microscope with a slit scanner (figure 1) and discusses its advantages, such as the higher sample illumination intensity (page 156, column 2). Moreover, D3 (column 7, lines 3-24) proposes replacing the pin hole arrangement in a spectral resolution, confocal scanning microscope by a slit scan arrangement, should this be necessary.

It is thus absolutely evident that a person skilled in the art would modify the arrangement disclosed in D1 in accordance with the teaching of D2 and D3 in order to increase, for example, the possible data recording speed.

Moreover, D2 also describes (figure 1 and corresponding description on page 157) the arrangement of a split diaphragm (S1, S2) in the illumination beam path and in the detection beam path, at least the slit width of diaphragm (S1) being adjustable.

A person skilled in the art would thus directly arrive at the solution specified in claim 1, without needing an inventive step.

3. Dependent claims 2-13 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, would meet the PCT novelty or inventive step requirements, for the following reasons:

claims 2-3: the use of the specified slit diaphragms and their design is generally known (see D1 and D2). The use of a zoom lens in connection with a slit diaphragm is disclosed in D4.

claims 4-10: the use of the specified components in confocal scanning microscopes is known from D1.

claims 11-13: the specified uses are known from D3 (column 8, lines 21-23) and their demands on the detection system are obvious to a person skilled in the art.